SOLID EDGE
VELOCITY SERIES

Tutorial: ***Rear Wheel***

Project: ***Roadroller (Synchronous)***

cad / cam / pdm / cae CAAP®

Solution Partner PLM SIEMENS

DETAIL B
2:1

SECTION A-A

AMERICAN PROJECTION	SCALE : 1:1	AUTHOR : Ruben	CAAP Hamersveldseweg 65 3833 GL Leusden +31(0)33-4573322 www.caap.nl
	DIMENSION UNITS : MM	CLASS (DEPARTMENT) : -	
	DATE : 22-8-2011	CHECKED BY : -	

MATERIAL : Steel	TITEL :	NUMBER :	REV:	SIZE:
PROJECT: Roadroller	Rear Wheel	1006	A	A4

1	1. Start **Solid Edge.** 2. Click on **ISO Part.** 	
2	1. Click the **Circle by Center Point** button. 2. Point at the **Origin** and wait until the icon appears before clicking.	
3	3. Click to place the Circle.	

4	1. Click the **Select** button. 2. When you hover over the Region it will turn red. Click on the Region, as shown.	
5	3. When you hover over the arrow, it will turn red. Click on the arrow, as shown. 4. Click the **Extrude – Symmetric** button.	
6	5. Key in the value **30** and confirm with **Enter**.	

7	1. Click the **Smart Dimension** button. 2. Click on the edge of the cilinder. 3. Click to place the dimension. 4. Key in the value **50** and confirm with **Enter**.	
8	1. Click the **Chamfer by Equal Setbacks** button.	
9	2. Select the two edges, as shown. 3. Key in a value for the chamfer (in this case **1**) and confirm with **Enter**.	

10	1. Click the **Circle by Center Point** button. 2. Point at the plane, as shown. Make sure the dotted line is shown. The dotted line shows if the center is vertical to the Z-axis. Click to place the centre of the Circle.	
11	3. Click to place the circle.	
12	1. Click the **Select** button. 2. When you hover over the Region it will turn red. Click on the Region, as shown.	

13 	3. When you hover over the arrow, it will turn red. Click on the arrow, as shown. 4. Make sure the **Extrude - Symmetric** is off.	
14 	5. Point the cursor behind the part and make sure it is through the part. Click to place the Cut.	
15 	1. Click the **Smart Dimension** button. 2. Click on the edge of the Cut. 3. Click on the **X-axis**. 4. Click to place the dimension. 5. Key in the value **13** and confirm with **Enter**.	

16	If the **Smart Dimension** is still active. 1. Click on the edge of the Cut. 2. Click to place the dimension. 3. Key in the value **6** and confirm with **Enter**.	
17	1. Click the **Chamfer by Equal Setbacks** button.	
18	2. Click on the two edge's, as shown. 3. Key in a value for the chamfer (in this case **1**) and confirm with **Enter**.	

19 + 	1. Click the **Select** button. 2. Click in the PathFinder on the **Cutout** and the **Chamfer**. 3. Click on the **Circular Pattern** button. ***Hint:*** *Click on the feature while press Ctrl, to select more than one features.*	
20 	1. Click the **Circular – Keypoints** button. 2. Click the **Center Point** button.	
21 	3. Hold the cursor on the edge of the cylinder as shown, wait till the icon appears and click. The Hole will centre automatically.	

22	4. Key in the value **3** at **Count** and confirm with **Enter**. 5. Click the icon.	
23	1. Click the **Hole** button. 2. Click the **Hole Options** button.	
24	Fill in the Hole Options, as shown. 1. Type: **Threaded**; 2. Thread: **M6**; 3. Finite extent: **8**; 4. Extents: **Finite extent**; 5. Hole depth: **10**; 6. V bottom angle: **yes**; 7. Click the **OK** button.	

25	1. Click the **Hole Keypoints** button. 2. Click the **Center Point** option. 3. Hold the cursor on the edge of the cylinder as shown, wait till the icon appears and click. The Hole will centre automatically.	
26	1. Click the **Chamfer by Equal Setbacks** button.	
27	2. Click on the edge of the Hole. 3. Key in a value for the chamfer (in this case **0,5**) and confirm with **Enter**.	

28	Now we set the material property. 1. Click the **Application Button**. 2. Click on **Properties**. 3. Click the **Material Table**.	
29	1. Choose the material **Steel**. 2. Click **Apply to Model** to set the material to the part. ***Hint:*** *There are several properties which are connected to a material, like color en density. The density is necessary to determine the weight.*	

30	Now we can paint the part. 1. Click on **View → Part Painter**.	
31	1. Select the style **Black**. 2. Click on the part. 3. Click the **Close** button. ***Hint:*** *If you don't get the follow message at step 32, please set the default settings again.*	
32	The part is ready. Now it must be saved. 1. First press **Ctrl** and **i** to turn the image to isometric view. 2. Click on the floppy icon. 3. Go to the **Summary** tab**.** 4. Type *Rear Wheel* at Title. 5. Go to the **Project** tab and fill in the following properties: Document Number*: 1006*. Revision Number*: A*. Project Name: *Roadroller*. 6. Click **OK** to close the screen. ***Hint:*** *All properties of the part are saved at the **File Properties**. These properties will be used by making a drawing or part list.*	

33	1. Browse to the folder *Roadroller*. 2. Save the document by name *Roadroller-1006-Rear Wheel-A.par*. 3. Click the **Save** button. 4. Close the file. ***Hint:*** *Save all files of one project in the same folder.*	